

MAIN INSTALLATION CHECKLIST

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If an item is marked Unsatisfactory, Not Applicable, or Not Checked, an explanation must be included in this report.

Operator: AMEREN ILLINOIS COMPANY	Operator ID#: 32513
Inspection Date(s): 9/24/2013	Man Days: 1
Inspection Unit: Hillsboro Storage	
Location of Audit: Hillsboro Storage	
Exit Meeting Contact: Mike Kershaw	
Inspection Type: Design Testing and Construction	
Pipeline Safety Representative(s): Jim Watts,	
Company Representative to Receive Report: Michael Fuller	
Company Representative's Email Address: mfuller2@ameren.com	

CONSTRUCTION INFORMATION		
Location of Construction: Observed welding fabrication being performed at the compressor station yard and excavation at the two most north wells in the storage field at Hillsboro Storage Facility.	Construction Performed By: KS Energy Services.	
Contractor Foreman:		
Operator Inspector:		
Person(s) On Job Site		
Brian Hardy, Foreman	Ed Hargrave, Operator	Marty Rallson, Laborer
Chase Murphy, Laborer	Rick Delong, Welder	Derek Rigdon, Welder Helper
Dick Barton, Ameren 3rd Party Inspector	Mike Kershaw, Supervisor Hillsboro Storage	Chuck Tebbe, Ameren Quality Assurance Consultant
Description of Construction: <div style="height: 40px; border: 1px solid black;"></div>		

MAIN INSTALLATION		Status
[192.55]	Steel	Yes
<u>General Comment:</u> Steel pipe was API 5L X52 with X52 and X60 fittings.		
[192.59]	PE	No
<u>General Comment:</u> No PE Piping was installed during the inspection.		

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[192.59]	Other	No
<u>General Comment:</u> <i>No other types of piping material will be installed during the project.</i>		
[192.5]	Class location :	1
[192.619,192.621,192.623]	MAOP	1440
[192.63]	Pipe Size :	8
[192.55,192.59]	Specification :	Api 5L
[192.55,192.59]	Manufacturer :	Midwest
[192.55,192.59]	Pipe Grade :	X52
[192.55,192.59]	Wall Thickness :	.322
[192.63(a)(2)]	Are pipe, valves, and fittings properly marked for identification?	Satisfactory
[192.227]	Date of Welder qualification:	7-8-13
[192.227]	Welder's Name:	Rick Delong
[192.225,192.275,192.277,192.279,192.283]	Is pipe joined in accordance with approved written procedures?	Unsatisfactory
<u>NOPV Comment:</u> <i>While conducting a construction inspection at the Hillsboro Storage Field, Staff observed a total of five fittings (3 tees and 2 elbows) marked with a yield strength of WPHY 65 had been welded into a drip and pig launcher piping during prefabrication. Further investigation determined Ameren does not have a qualified welding procedure for welding on piping with a yield strength of X65. Ameren only has qualified welding procedures up to and including X60 yield strength. The fittings identified being marked as WPHY 65 shall be cut out and replaced with fittings marked as WPHY 60. While Staff was present Ameren conducted a review of the fitting stock for this project at Hillsboro Storage and removed all fittings marked as WPHY 65 and will not be used during the construction project.</i>		
[192.285]	Date of Plastic Joining Qualification :	Not Applicable
<u>General Comment:</u> <i>No plastic piping will be utilized during this project.</i>		
[192.285]	Joiner's name:	Not Applicable
<u>General Comment:</u> <i>No plastic piping will be utilized during this project.</i>		
[192.455]	Is buried metallic pipe coated?	Satisfactory
<u>General Comment:</u> <i>The existing piping was X-tru coat or coal tar wrapped main. The new piping will be epoxy coated piping.</i>		
[192.461]	Does coating meet 192.461?	Satisfactory
<u>General Comment:</u> <i>The line pipe is coated with epoxy coating. Fittings and welds will be coated with hot wrap just prior to or after installing the piping in the ditch.</i>		

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[192.455(a)(1)]	Is cathodic protection being provided?	Satisfactory
<u>General Comment:</u> <i>The current piping is protected with rectifiers. The new piping will be tied into the existing piping system.</i>		
[192.455(a)(1)]	Is cathodic protection being provided? By Anodes:	No
<u>General Comment:</u> <i>Anodes are not utilized as the piping is protected using rectifiers.</i>		
[192.455(a)(1)]	Is cathodic protection being provided? By Rectifier:	Yes
<u>General Comment:</u> <i>There are 8 rectifiers that protect the piping within the storage field.</i>		
[192.461(c)]	Is coating inspected just prior to being installed in the ditch?	Not Checked
<u>General Comment:</u> <i>No piping was installed in the ditch during this inspection.</i>		
[192.467]	Are pipelines electrically isolated from other underground metallic structures?	Satisfactory
<u>General Comment:</u> <i>Electrical isolation is present at the well sites and is accomplished using insulated flanges to isolate the downhole well piping from the transmission piping.</i>		
[192.479]	Are above ground facilities cleaned and coated or jacketed as needed?	Not Checked
<u>General Comment:</u> <i>No above ground piping was installed during the inspection. The new piping will be painted as part of the replacement project.</i>		
[192.303]	Are comprehensive written construction specifications available and adhered to?	Satisfactory
<u>General Comment:</u> <i>The Ameren inspector on site had a copy of the Ameren O&M, Construction procedures and copies of the project plans.</i>		
[192.305]	Are inspections performed by the operator to check adherence to the construction specifications?	Satisfactory
<u>General Comment:</u> <i>Ameren has a third party inspector observing the work during the project.</i>		
[192.307]	Is material being visually inspected at the site of installation to ensure against damage that could impair its serviceability?	Satisfactory
<u>General Comment:</u> <i>They are inspecting for damage but failed to detect the improper yield strength of Y65 stamped on approximately 8 fittings observed by Staff. The fittings should have been constructed to Y60 standards because Ameren has no qualified welding procedures for Y65 pipe or fittings.</i>		
[192.319]	Is ditch back-filled to provide firm support and prevent damage to pipe or coating?	Not Checked

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<u>General Comment:</u>		
No backfilling was conducted during the inspection.		
[192.321(c)]	Is plastic pipe installed as to minimize shear and tensile forces?	Not Applicable
<u>General Comment:</u>		
No plastic pipe will be utilized during this project.		
[192.321(e)]	Does plastic pipe have means of locating while underground?	Not Applicable
<u>General Comment:</u>		
No plastic pipe will be utilized during this project.		
[192.325]	Are required clearances from underground structures being maintained?	Not Applicable
<u>General Comment:</u>		
No underground structures were encountered during the excavations performed.		
[192.327]	Is required cover being obtained appropriate to type of pipeline and location?	Not Checked
<u>General Comment:</u>		
No piping was installed during the inspection to confirm cover.		
[192.503]	Are general testing requirements being met?	Not Checked
<u>General Comment:</u>		
No pressure testing was performed during the inspection. The plans require the new piping to be hydro tested prior to being connected to the existing piping.		
[192.517]	Are records being made of strength and leak tests?	Not Checked
<u>General Comment:</u>		
No pressure testing was performed during the inspection.		
[192.807]	Were covered employees Operator Qualification records reviewed to ensure qualification?	Satisfactory
<u>General Comment:</u>		
Staff reviewed the qualifications of the KS Energy employees on site and determined they were currently qualified for the tasks performed or were working under the direction of a qualified individual.		
[192.805(c)]	Were non-qualified personnel being "directed and observed" by a qualified individual?	Satisfactory
<u>General Comment:</u>		
One of the two laborers on site was not currently qualified but was working under the direction of a qualified laborer and equipment operator.		
[192.805(c)]	Were span of control limitations being followed?	Satisfactory
<u>General Comment:</u>		
Span of control was observed being maintained during the inspection.		

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Was a Protocol 9 (Form 15) Completed?		No
[192.614]	Were One Call Notifications performed as required?	Satisfactory
[192.614]	Dig Ticket #	A2390522

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